

Wave monitoring Broersbank: measurement campaign and modelling

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Along the Belgian coast, wave energy is dissipated by a number of shallow banks. To better understand and characterize and consequently model wave propagation and dissipation towards the coast an intensive wave measurement campaign has been designed. Five waverider buoys (2 directional and 3 non-directional) have been deployed between Westhinder and the Broersbank by the Coastal Division of MDK.

The buoys have been operational since the end of November 2013 and have been able to record some first storms. Note that being situated in the Western part of the Belgian Continental Shelf, the new buoys provide very complimentary wave information to that coming from the 'Meetnet Vlaamse Banken' of the Coastal Division of MDK.

By analysing the measurements and comparing them with high resolution spectral modelling, the target is to achieve in the first place a better knowledge about the dissipation rates of waves passing over shallow banks. Good knowledge of wave energy dissipation capacity of shallow sandbanks has important applications including assessing their potential as coastal protection. It is also an important step in characterizing the wave energy that still will need to be dissipated on the beach itself. KU Leuven will study the results of the measurements.